

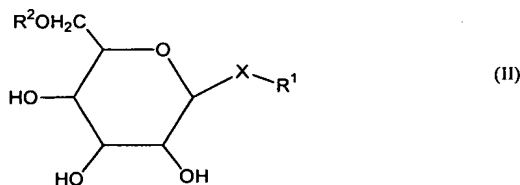
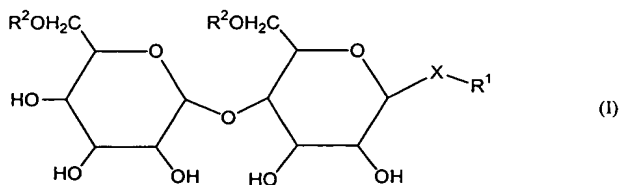
WHAT IS CLAIMED IS:

1. A method for treating cancer of the bladder comprising:
contacting the luminal surface of the bladder with a pretreatment
composition comprising a transduction enhancing agent; and
5 subsequently contacting the luminal surface of the bladder with a
composition comprising an oncolytic virus;
wherein the transduction enhancing agent is a mono-, di-, or poly-
saccharide having a lipophilic substituent.

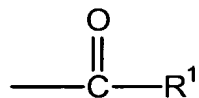
2. The method of Claim 1, wherein the transduction enhancing agent is a
10 di-saccharide having a lipophilic substituent.

3. The method of Claim 1, wherein the transduction enhancing agent is a
di-saccharide having a lipophilic substituent and wherein the di-saccharide is
selected from the group consisting of sucrose, lactose, maltose, isomaltose,
trehalose and cellobiose.

15 4. The method of Claim 1, wherein the transduction enhancing agent has
the following general formula (I) or the following general formula (II):

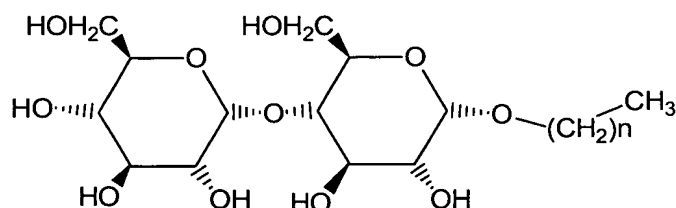


wherein X is a sulfur or oxygen atom, each R² is independently hydrogen or a moiety represented by:



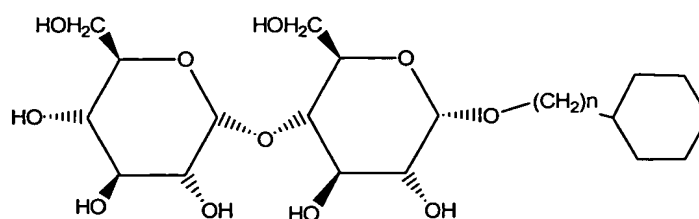
and R¹ represents an alkyl or alkenyl group.

5. The method of Claim 1, wherein the transduction enhancing agent has
5 the chemical formula:



wherein n is a positive integer.

6. The method of Claim 5, wherein n is 11 or greater.
7. The method of Claim 5, wherein n is 11.
- 10 8. The method of Claim 7, wherein the pretreating composition comprises about 0.02 to about 0.5 % by weight of the transduction enhancing agent.
9. The method of Claim 1, wherein the transduction enhancing agent has the chemical formula:



wherein n is a positive integer.

10. The method of Claim 9, wherein n is 6 or greater.
11. The method of Claim 9, wherein n is 6.
12. The method of Claim 11, wherein the pretreatment composition comprises about 0.1 % by weight of the transduction enhancing agent.
- 5 13. The method of Claim 1, wherein the oncolytic virus is an oncolytic adenovirus.
14. The method of Claim 13, wherein the oncolytic adenovirus is CG8840.
15. The method of Claim 13, wherein the oncolytic virus composition further comprises a chemotherapeutic agent.
- 10 16. The method of Claim 15, wherein the chemotherapeutic agent is docetaxel.
17. The method of Claim 1, wherein contacting the luminal surface of the bladder with a composition comprising an oncolytic virus comprises delivering about 50 to about 500 ml of the oncolytic virus composition to the bladder by
- 15 instillation.
18. The method of Claim 1, wherein the oncolytic virus composition comprises from about 1×10^{11} to about 1×10^{14} viral particles.
19. The method of Claim 1, wherein contacting the luminal surface of the bladder with a pretreatment composition comprises delivering the pretreatment
- 20 composition to the bladder by instillation.
20. The method of Claim 1, further comprising washing the luminal surface of the bladder after contact with the pretreatment composition and before contact with the oncolytic virus composition.

21. The method of Claim 1, wherein the pretreatment composition is contacted with the luminal surface of the bladder for about 5 minutes.

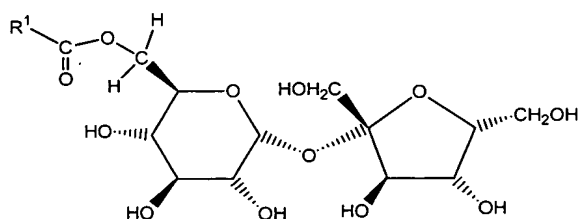
22. The method of Claim 1, wherein the pretreatment composition further comprises an oxidizing agent.

5 23. The method of Claim 22, wherein the oxidizing agent is selected from the group consisting of hypochlorous acid, hydrogen peroxide, and peroxyacetic acid.

24. The method of Claim 1, wherein the lipophilic substituent comprises an alkane group.

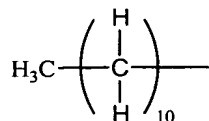
10 25. The method of Claim 1, wherein the lipophilic substituent is an alkanoic acid residue.

26. The method of Claim 1, wherein the transduction enhancing agent has the chemical formula:



where R¹ represents an alkyl or alkenyl group.

15 27. The method of Claim 26, wherein R¹ is represented by:



28. A method for treating cancer of the bladder comprising:
contacting the luminal surface of the bladder with a pretreatment
composition comprising about 0.01 to about 0.2 % by weight sodium
oxychlorosene; and

5 subsequently contacting the luminal surface of the bladder with a
composition comprising an oncolytic virus.

29. The method of Claim 28, wherein the pretreatment composition
comprises from about 0.01 to about 0.1 % by weight sodium oxychlorosene.

30. The method of Claim 28, wherein the oncolytic virus is an oncolytic
10 adenovirus.

31. The method of Claim 30, wherein the oncolytic adenovirus is CG8840.

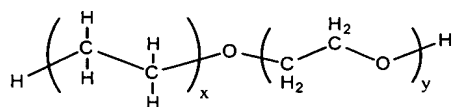
32. The method of Claim 30, wherein the oncolytic virus composition
further comprises a chemotherapeutic agent.

33. The method of Claim 32, wherein the chemotherapeutic agent is
15 docetaxel.

34. The method of Claim 28, wherein the oncolytic virus composition
comprises from about 1×10^{11} to about 1×10^{14} viral particles.

35. The method of Claim 28, further comprising washing the luminal
surface of the bladder after contact with the pretreatment composition and before
20 contact with the oncolytic virus composition.

36. A method of treating cancer of the bladder comprising:
 contacting the luminal surface of the bladder with a pretreatment
 composition comprising a transduction enhancing agent having a structure
 represented by the chemical formula:



5 wherein x and y are positive integers; and

subsequently contacting the luminal surface of the bladder with a
 composition comprising an oncolytic virus.

37. The method of Claim 36, wherein x is 6 and y is 8 - 10.

38. The method of Claim 37, wherein the pretreatment composition
 10 comprises about 0.02 to about 0.5 wt.% of the transduction enhancing agent.

39. The method of Claim 36, wherein the oncolytic virus is an oncolytic
 adenovirus.

40. The method of Claim 39, wherein the oncolytic adenovirus is CG8840.

41. The method of Claim 39, wherein the oncolytic virus composition
 15 further comprises a chemotherapeutic agent.

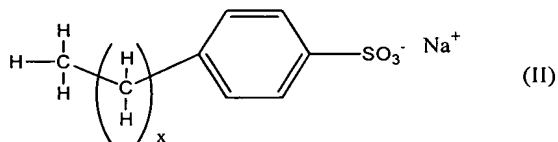
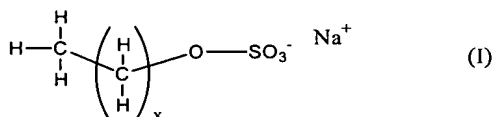
42. The method of Claim 41, wherein the chemotherapeutic agent is
 docetaxel.

43. The method of Claim 36, wherein the pretreatment composition further
 comprises an oxidizing agent.

44. The method of Claim 43, wherein the oxidizing agent is selected from the group consisting of hypochlorous acid, hydrogen peroxide, and peroxyacetic acid.

45. A method of treating cancer of the bladder comprising:

5 contacting the luminal surface of the bladder with a pretreatment composition comprising a transduction enhancing agent having a structure represented by the following general formula (I) or the following general formula (II):



wherein x is a positive integer; and

10 subsequently contacting the luminal surface of the bladder with a composition comprising an oncolytic virus.

46. The method of Claim 45, wherein x is 11.

47. The method of Claim 46, wherein the transduction enhancing agent has a structure represented by the general formula (I).

15 48. The method of Claim 47, wherein the pretreatment composition comprises about 0.1 wt.% of the transduction enhancing agent.

49. The method of Claim 46, wherein the transduction enhancing agent has a structure represented by the general formula (II).

50. The method of Claim 49, wherein the pretreatment composition comprises about 0.2 wt.% of the transduction enhancing agent.

51. The method of Claim 45, wherein the oncolytic virus is an oncolytic adenovirus.

5 52. The method of Claim 51, wherein the oncolytic adenovirus is CG8840.

53. The method of Claim 51, wherein the oncolytic virus composition further comprises a chemotherapeutic agent.

54. The method of Claim 53, wherein the chemotherapeutic agent is docetaxel.

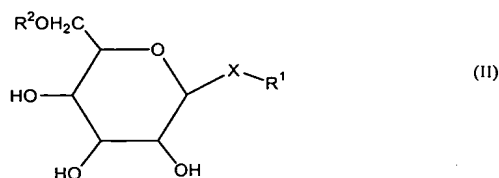
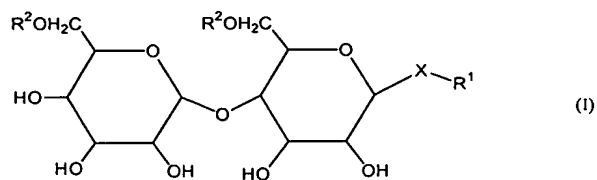
10 55. The method of Claim 45, wherein the pretreatment composition further comprises an oxidizing agent.

56. The method of Claim 55, wherein the oxidizing agent is selected from the group consisting of hypochlorous acid, hydrogen peroxide, and peroxyacetic acid.

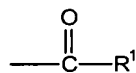
15 57. A composition comprising:
a transduction enhancing agent; and
an oncolytic virus;

wherein the transduction enhancing agent is a mono-, di-, or poly-saccharide having a lipophilic substituent.

20 58. The composition of Claim 57, wherein the transduction enhancing agent is a compound having the following general formula (I) or the following general formula (II):



wherein X is a sulfur or oxygen atom, each R² is independently hydrogen or a moiety represented by:



and R¹ represents an alkyl or alkenyl group.

5 59. The composition of Claim 57, wherein the oncolytic virus is an oncolytic adenovirus.

60. The composition of Claim 57, wherein the oncolytic adenovirus is CG8840.

61. The composition of Claim 57, further comprising a chemotherapeutic agent.

10 62. The composition of Claim 61, wherein the chemotherapeutic agent is docetaxel.

63. A method for treating cancer of the bladder comprising contacting the luminal surface of the bladder with the composition of Claim 57.

64. A composition comprising sodium oxychlorosene and an oncolytic virus.

65. The composition of Claim 64, wherein the oncolytic virus is an oncolytic adenovirus.

5 66. The composition of Claim 64, wherein the oncolytic adenovirus is CG8840.

67. The composition of Claim 64, further comprising a chemotherapeutic agent.

10 68. The composition of Claim 67, wherein the chemotherapeutic agent is docetaxel.

69. The composition of Claim 64, wherein the composition comprises about 0.01 to about 0.4 % by weight sodium oxychlorosene

70. The composition of Claim 64, wherein the composition comprises about 0.01 to about 0.2 % by weight sodium oxychlorosene.

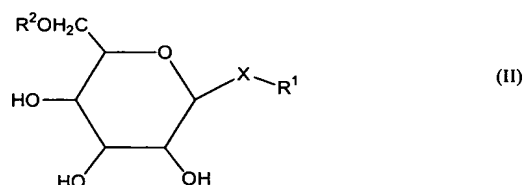
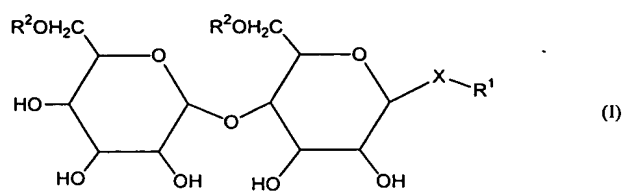
15 71. A method for treating cancer of the bladder comprising contacting the luminal surface of the bladder with the composition of Claim 64.

72. A method for treating cancer of the bladder comprising:

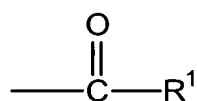
contacting the luminal surface of the bladder with a pretreatment composition comprising a transduction enhancing agent; and

20 subsequently contacting the luminal surface of the bladder with a composition comprising an oncolytic virus;

wherein the transduction enhancing agent has the following general formula (I) or the following general formula (II):



wherein X is a sulfur or oxygen atom, each R² is independently hydrogen or a moiety represented by:



and R¹ represents an alkyl or alkenyl group; and

wherein the luminal surface of the bladder is contacted with the

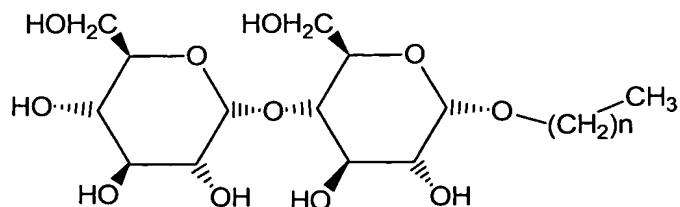
5 pretreatment composition for at least 10 minutes.

73. The method of Claim 72, wherein R¹ comprises at least 12 carbon atoms.

74. The method of Claim 72, wherein each R² is hydrogen.

75. The method of Claim 72, wherein the transduction enhancing agent has

10 the chemical formula:



wherein n is a positive integer.

76. The method of Claim 75, wherein n is 11 or greater.

77. The method of Claim 75, wherein n is 11.

78. The method of Claim 77, wherein the pretreating composition

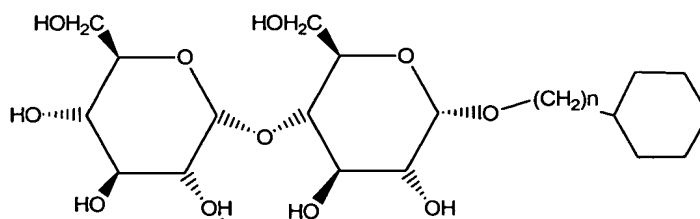
5 comprises about 0.025 to about 0.4 % by weight of the transduction enhancing agent.

79. The method of Claim 72, wherein the luminal surface of the bladder is contacted with the pretreatment composition for at least 20 minutes.

80. The method of Claim 79, wherein the luminal surface of the bladder is
10 contacted with the composition comprising the oncolytic virus for 15 minutes or less.

81. The method of Claim 79, wherein the luminal surface of the bladder is contacted with the composition comprising the oncolytic virus for 10 minutes or less.

15 82. The method of Claim 72, wherein the transduction enhancing agent has the chemical formula:



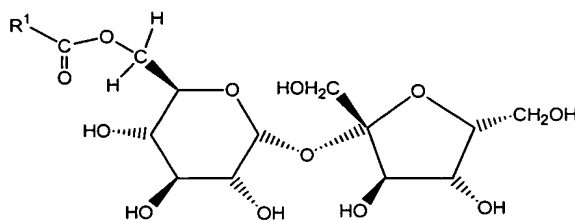
wherein n is a positive integer.

83. The method of Claim 72, wherein the oncolytic virus is an oncolytic adenovirus.

84. The method of Claim 83, wherein the oncolytic adenovirus is CG8840.

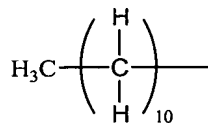
85. The method of Claim 72, wherein the oncolytic virus composition comprises at least 4×10^{10} viral particles.

86. The method of Claim 72, wherein the transduction enhancing agent has
5 the chemical formula:



where R^1 represents an alkyl or alkenyl group.

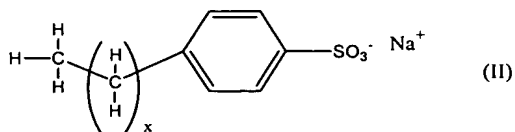
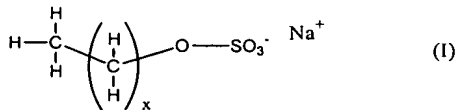
87. The method of Claim 86, wherein R^1 is represented by:



10 88. A method of treating cancer of the bladder comprising:

contacting the luminal surface of the bladder with a pretreatment composition comprising a transduction enhancing agent having a structure represented by the following general formula (I) or the following general formula

(II):



wherein x is a positive integer; and

subsequently contacting the luminal surface of the bladder with a composition comprising an oncolytic virus;

wherein x is at least 11; and

5 wherein the oncolytic virus composition comprises at least 4×10^{10} viral particles.

89. The method of Claim 88, wherein x is 11.

90. The method of Claim 89, wherein the transduction enhancing agent has a structure represented by the general formula (I).

10 91. The method of Claim 90, wherein the pretreatment composition comprises about 0.1 wt.% of the transduction enhancing agent.

92. The method of Claim 88, wherein the oncolytic virus is an oncolytic adenovirus.

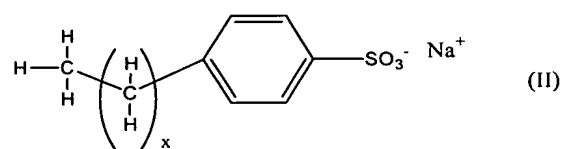
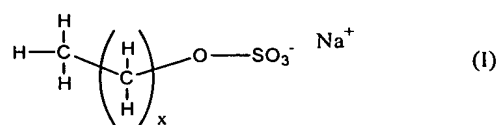
93. The method of Claim 92, wherein the oncolytic adenovirus is CG8840.

15 94. A composition comprising:

a transduction enhancing agent; and

an oncolytic virus;

wherein the transduction enhancing agent has a structure represented by the following general formula (I) or the following general formula (II):



wherein x is a positive integer; and

wherein the concentration of the transduction enhancing agent is less than 0.025 wt/% of the composition.

95. A method for treating cancer of the bladder comprising contacting a
5 luminal surface of the bladder with the composition of Claim 94.